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Organisational Culture that Inhibit the Lean Implementation

Abdullah Alkhoraif, Cranfield University, UK
Patrick McLaughlin, Cranfield University, UK

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Abstract
Lack of research regarding the critical factor of organisational culture related to lean implementation and Culture is the key factor to making the changes for lean implementation (Pakdil and Leonard, 2015a). Implementing lean into industrial SMEs faces difficulties, whereas it is more likely to be implemented successfully in larger companies, which then gain the advantages of lean systems(Karim *et al.*, 2011). Moreover, the culture of an organisation plays a vital role, especially for managers facing the challenge to change that culture(Graham-jones and Muhareb, 2015)**.**
According to the European Commission (2003) the purpose of this paper SMEs refer to organisations with fewer than 250 employees. The aim is to develop an Organisational Culture to improve Lean Implementation into Manufacturing Organisation SMEs by analyses the organisational culture aspects that enable and inhibit lean implementation, through a literature review. Finally the question will be what are the organisational culture enablers for lean implementation in manufacturing SMEs. Systematic review methodology applied to this research. The main aim of this research is to develop an organisational culture to facilitate lean implementation before adopting the lean system. It has been observed that the appropriate lean culture enhances the pace of the growth and keeps the firm competitive (Pooyan et al, 2014). These inhibiting factors, and indeed those factors that encourage this behaviour can be graphically displayed and tabulated, allowing deeper analysis of each, to find its roots and, where necessary, remove it from the company culture (Hietschold et al, 2014)

Keywords: Organisational Culture, Lean, Small to Medium Sized (SME).

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Introduction

Organisational culture is one of the most important factors in small and medium sized to focus on to facilitate the implementation of lean within manufacturing Organisation (Karim and Arif-Uz-Zaman, 2013). The main aim of this research is to develop an organisational culture framework for small and medium sized manufacturing organisation in Saudi Arabia to facilitate lean implementation before adopting the lean system. According to Karim et al., (2011), the most important factor that affects the implementation of lean is the organisation's culture. It has been observed that the appropriate lean culture enhances the pace of the growth and keeps the firm competitive, (Pooyan, et al.,2014).

Lean

The aim of lean production is that company resources should all be channeled in ways that ultimately create value for the end user,(Schouteten and Benders, 2004). In essence it works towards the goal of maintaining value while doing less work and at the heart is achieving greater efficiency,(Schouteten and Benders, 2004). The definition of lean provided by (Corbett, 2007)emphasises on lean as an integral part of the entire organisation, essentially pointing to lean as being considered more of a philosophy than just a tool or process. This is further supported by Womack and Jones, (2003) who suggest that lean is becoming understood as more than just production, but an all-encompassing business ideology which incorporates all aspects of value streams as opposed to individual production processes. According to Bhamu and Singh Sangwan, (2014) lean provides a methodology by which organisations can significantly improve their responsiveness to customers while decreasing and managing costs and waste in supply and operational procedures. When Womack, Jones and Roos, released their book in 1991 '*The Machine That Changed the World',* the main message was when the concept of lean became popularised among mainstream business and expanded further into manufacturing beyond the automobile sector,(Corbett, 2007).In its inception, lean was predominantly a tool focused on manufacturing processes, (Wang and Huzzard, 2011)The evolution of lean has since transcended further into operational and strategic levels of organisations, Hines et al.(2004).Initial themes advocated by Womack, Jones and Roos, (1991)is organisational learning.

Twenty years on since Womack, Jones and Roos's book release the success rate of lean is still rather low, (Pay, 2008; Yamamoto and Bellgran, 2010; Bhasin, 2012). (Chay *et al.*, 2015) suggests it is complicated to implement lean by merely focusing on the hard aspect (tools) without also including the soft aspects. (Chase, 1999) emphasises the need to view lean as a long term strategy. Lewis (2000) and Lin and Hui (1999) are more skeptical of lean while, Oliver and Hunter, (1998) found no correlation between high and low users of lean and organisational performance. Shah and Ward, (2007) suggest there is a lack of a common definition for lean. The absence of clarity can be seen from the vast amount of term used regarding lean production, (Shah and Ward, 2007). The ambivalence is in part due to lean having evolved over a long time period,(Shah and Ward, 2007; Womack, et al., 1991). Stone (2012) suggest the confusion surrounding what exactly lean means is partly what has led to misguided efforts in its implementation without encompassing its philosophy.

The challenges of lean manufacturing implementation in SME

Lean is defined and interpreted in different ways, and according to Shah and Ward (2007) lean has been identified as having four approaches; 1. As an operational philosophy 'leanness' 2. A strategic philosophy, 'lean thinking' 3. An operational practice 'tool box lean' and a strategic practice 'becoming lean', (Shah and Ward, 2007). However, the extent of lean mostly attempted to be adopted by SMEs has been in internal operations. It is more unlikely for SMEs to adopt a strategic lean focus, (Wanitwattanakosol and Sopadang, 2012). Therefore, the scope of literature discovered that it is very rare for lean implementation to be applied past the level of the factory floor, (Stuart and Boyle, 2007). In contrast large enterprises are more likely to adopt lean at a strategic level and they have been shown to be more successful in reaping its benefits, (Stuart and Boyle, 2007). Hines (2010) thus points out that while SMEs tend to be merely selecting a combination of the tools and techniques from lean operation rather than adopting it as a holistic approach, which is considered important for its successful implementation, that it leads to perhaps an important factor in the downfall of the success of lean in SMEs, (Bessant and Caffyn, 1997).

Rymaszewska ,(2014) conducts a study regarding lean implementation for SMEs which is however, focussed on SMEs in Europe. Its main basis utilises the benchmarking approach which is however rather valuable because it helped to uncover the challenges Toyota faced implementing lean and highlighting that it is part of the journey, (Rymaszewska, 2014) Therefore, an important point reinforced by Flinchbaugh, (2004) is that a lean organisation is also a learning organisation which therefore also corporates certain trials in the transition process. While Toyota encourages sharing knowledge, they also emphasise the concept of 'learning by doing' which helps to promote greater reflection on processes, (Flinchbaugh, 2004). Furmans, (2005)suggests there is also the challenge of having a continuous work flow. Liker, (2004)suggests that unevenness comes from inconsistencies in scheduling and production volumes which are symptomatic of parts which have not been delivered or faulty supplies. Liker and Rother, (2013) claims that the best way to deal with this is to deal with the total volume of orders within a certain time period this enables a pattern of volume and production schedule to be arranged. Furthermore, just in time inventories is a major premise behind lean implementation however, Cooney (2002) points out some weaknesses associated with it which include its limitations in dealing with labour and product market forces impacting on JIT. SMEs may have some difficulties in setting up long standing relationships with suppliers, (Cooney, 2002). Morrissey, (2006). often emphasise short term benefits when it comes to buyer and supplier relationships. Another challenge is the step towards implementing employee autonomy and increased standardisation. Research studies in the furniture and boating manufacturing industries have uncovered that the line worker mentality with strictly assigned job tasks is still more widely adopted, resulting in the inability of workers to change between various production tasks, (Rymaszewska, 2014). Some lean management failures have also been attributed to negative synergies between JIT and operations management practices, (Matsui, 2007).

Culture

National culture and corporate or organisational culture share some overlaps due to the behaviour commonly held by the members of the company are also members of the same national culture, (Schein, 1984). Goldstein (1957) says that neither the nominal definition of Culture nor the synoptically definition is much help when trying to grasp the meaning of a term with so many variables:

"Definitions…are usually intended to serve one or another of three distinct aims. Of these, the first [nominal definition] may be useful, the second [synoptical definition] is rather futile, and the third [essential definition] entirely pernicious" (Goldstein, 1957, p. 1075).
Philosophers have suggested that culture is primarily defined by language (Lazăr, 2010), but corporations do not have a 'language' – although efforts to create one have been made (Fredriksson,et al. 2006). Although we live in an increasingly globalised world(Held and McGrew, 2000), national and local culture still has a large influence on the way that businesses are run and operate.

Organisational culture

In the same way that national culture distinguishes characteristics between different countries, organisational culture also distinguishes one company from the other, (Vijay, 1985). Kotter and Heskett, (1992) suggest that organisational culture impacts on organisational performance. According to Siehl and Martin, (1989) culture has an influence on the attitudes of individuals and employees in a company and in return impact on organisational effectiveness. There is a great number of studies which demonstrate the positive correlation between culture and organisational effectiveness(Quinn and Spreitzer, 1991; Gregory *et al.*, 2009). Studies have shown a relationship between organisational culture as an asset which positively promotes company performance, (Prajogo and McDermott, 2011).

Various definitions of organisational culture exist yet there are a number of similarities which include the frame work established by Schein (1984) the existence of "artefacts, values and beliefs and the behaviours which are commonly shared and accepted by members in the organisation", (Detert *et al.*, 2000, p. 851). One of the most well-known definitions of organisational culture is, "The way we do things around here," (Sun, 2009, p. 137). According to Brown (1998) organisational culture can be defined as, "…the pattern of beliefs, values, and learned ways of coping with experience that have developed during the course of an organisations history, and which tend to be manifested in its material arrangements and in the behaviours of its members, (Sun, 2009, p. 137). The research available on organisational culture tends to deal with two main factors, the values and behaviours existing in the company and also how strongly these are exhibited throughout the organisation, (Detert et al,.2000). According to Sørensen and Sorensen, (2002) both types of values and beliefs in conjunction with how strongly they are abided by within the organisation are important determinants of competitive performance. Four themes have been identified in organisational culture by Maull, et al,.(2001). The first one being, culture is a

learned entity, (Sun, 2008). This refers to culture being utilised as the right way for new members to behave thus, propelling development and ensuring survival of the organisation, (Sun, 2008), Secondly, culture is seen as a belief system.

According to Davis (1985)culture is defined as, The pattern of shared beliefs and values that give members of an institution meaning, and provide with the rules for behaviour in their organisation," (Sun, 2008, p 138). Under this theme organisational culture is divided into beliefs and daily beliefs. Guiding beliefs provide the context in which the practical beliefs of daily life occur, (Sun, 2008). Thirdly, culture is viewed as a strategy. Although Bate (1995) does not agree with a distinction drawn between culture and strategy. He suggests, strategy in itself is in fact a cultural phenomenon, (Bate, 1995). This would lead to two inferences; firstly that any sort of strategy formulation is a cultural activity and secondly all cultural changes would therefore be considered strategic changes, (Sun, 2008). Although according to Sun, (2012) "Any cultural programme in an organisation is not separate because any change to the cultural program occurs during formal and informal strategic planning processes," (Sun, 2012, p 138). The fourth theme sees culture as mental programming. This can be seen through Hofstede's definition of culture as, "collective programming of the mind, which distinguishes the members of one category of people from another," (Hofstede, 1991, pg 5). Interestingly the understanding of organisational culture and its impact on company performance has been adapting over the decades, (Sørensen and Sorensen, 2002). Peters and Waterman (1982) having identified a correlation between a solid organisational culture and successful company and financial results. However, later on Kotter and Heskett (1992) further added to this by discovering that not only was a strong organisational culture important for company performance but that it should also be adaptive in order to achieve "superior performance." An important aspect to consider when discussing organisational culture is the multidimensional relationship which connects organisational culture and the performance of the company, (Kotter and Heskett, 1992). Its impact is far reaching as it involves a number of areas which relate to the organisation's competitive performance, (Kotter and Heskett, 1992). Porter (1985) reinforces the notion of achieving the right fit between organisational culture and a specific type of organisational performance. Prior research which embodies the role of organisational cultural influence on performance has been highlighted in numerous research, (Dale and Cooper, 1992; Oackland, 1995; Thomas, 1995; Wilkinson *et al.*, 1998; Stock, et al., 2007). According to Ouchi (1981) significant contrasts can be identified between corporate structures of America and Japan. Japanese companies tend to be characterised with great labor force stability and utilising democratic decision making processes, (Mehri, 2006). Furthermore, respect for people is at the cornerstone of their organisational culture and successful lean implementation, (Mehri, 2006).

Lean culture

Pakdil and Leonard, (2015) suggest a number of organisational factors which create the cultural infrastructure of a company impacting on the success of lean management. These factors include; "employee involvement, creativity, problem-solving processes, decentralisation, control and standardisation, efficiency, productivity and continuous improvement," (Pakdil and Leonard, 2015b, p. 726). (Liker, 2004) suggests that two key elements present in lean cultures are, continuous improvement and care for employees and relationships. Naor *et al.*, (2008) suggests

that lean culture needs well trained human resources to foster improvement and knowledge sharing in order to leverage lean as a competitive advantage. With regards to understanding more about lean culture at higher levels in the organisation, Saha *et al.*, (2014) identify the importance of establishing lean transformation initiatives to create a 'lean culture' within the organisation to support the lean processes on the factory floor. They identify the following 'social areas' which need adjustment in order to take on a lean philosophy and transition to a lean culture, (Flinchbaugh, 2004). Leadership behaviour and style is of particular importance in conjunction with strategies which are geared towards encouraging lean culture. Saha *et al.*,(2014) identify an important aspect, which compliments the work of Angelis et al. (2010) in terms of the discussion of employee commitment. Saha *et al.*, (2014) who researched lean in server manufacturing, suggest that the altering of employees' mindsets and the worker's train of thought and the company's willingness to embrace lean transformation contributes for 80% of lean's success in the company.

The soft lean aspects of the are considered critical factors for the success of lean, Saha *et al.*, (2014). While lean has been recognised as providing improvements in production, its failure has often been due to not enough emphasis being placed on soft lean aspects, (Al-Najem, et al,. 2012). The role of senior management is critical in initiating and sustaining lean within the organisation, (Swank, 2003). Their role encompasses the following areas; firstly, the development and implementation of a framework and process which can pre-empt and deal with issues of lean transformation across departments, (Swank, 2003). The aim is to improve the chances for the success of sustainable improvements to processes lasting beyond just the duration of a project but for the long term, (Swank, 2003). Research conducted by Singh and Singh, (2012) highlights how lean culture and continuous improvement is manifested at a task level within the organisation. As identified in lean philosophy continuous improvement also tends to advocate team work, (Detert, et al., 2000). However, in addition to this each individual worker is also encouraged to show areas for improvement in their day to day tasks and to communicate and provide suggestions on how things can be made better, , (Detert, et al., 2000). Furthermore, these regular team discussions are held in order to identify areas of weakness within the processes and brainstorm on solutions. Furthermore, central to the continuous improvement is the principal of a customer driven outlook for improvement. This is complimentary to the customer added value principle in lean culture, Singh and Singh, (2012). Within this continuous improvement the success of the company depends highly upon the customer, (Prajogo and McDermott, 2011)Therefore, the aim is to go beyond customer expectations. Continuous improvement is founded upon the active participation of people, (Fullerton and McWatters, 2001). This means knowledge sharing, training, and growth are all given high priority, (Fullerton and McWatters, 2001). Continuous improvement emphasises the consideration of the entire process and the end result rather than too much internal focus within isolated departments, (Prajogo and McDermott, 2011). It advocates the co-operation of horizontal processes similarly to the customer value added principle encouraging horizontal communication, (Fullerton and McWatters, 2001).

Design improvements are not only considered at a product level but also encompassing a service level and identifying areas for improvement sooner as opposed to later which incurs greater costs, (Prajogo and McDermott, 2011). Factual decision making which requires thorough investigation at all levels is central to

continual improvement, thus strong participation of feedback from task level staff is often necessary, (Imai, 1997).
Partnership developments are also an important factor in continuous improvement as relationship building both internally and with external suppliers and contractors are often essential to ensuring the smooth running of projects, (Imai, 1997). Matsui, (2007)suggests that the effectiveness of hard lean practices are significantly increased when teamed equally with the soft practices which include HRM, customer feedback, supplier, management and leadership support. However, studies suggest that no single organisational profile guarantees success, (Denison and Mishra, 1995; Prajogo and McDermott, 2011; Bortolotti et al,. 2015). Rather, what is suggested is the establishment of diverse and varied organisational cultural profiles which leverage a particular management process or improvement program, (Detert et al,. 2000). There are a number of situations which exemplify how specific organisational culture dimensions are linked to different and at times opposing performance outcomes, (Fey and Denison, 2003). Furthermore, it has been noted that a high power distance has an adverse effect on employee empowerment and autonomy, (Prajogo and McDermott, 2011). While higher levels of uncertainty avoidance and organisational collectivism have a positive correlation with improvement projects, (Prajogo and McDermott, 2011). Furthermore, higher levels of group collectivism and long term orientation are considered to significantly and positively impact on operational performance, (Lozeau et al,. 2002). According to Lozeau et al., (2002), if a misfit between organisational culture and organisational practices happens this leads to a reduction in performance improvements. Liker (2004) has discussed Toyota's example of organisational culture according to 14 principles, while Rother (2009) has discussed Toyota's organisational culture in terms of continuous improvement. While they did not utilise an extensive organisational culture model it did highlight certain attributes which are consistent with organisational culture such as fairness and values encouraging co-operation and closer ties between the company and its suppliers in addition to a strong focus on continuous improvement, (Bessant and Caffyn, 1997). According Wincel and Kull, (2013) lean culture will probably be ever evolving as organisations gradually master its implementation.

The study conducted by Bortolotti, Boscari and Danese, (2015) discovered that organisational cultures which experienced more successful results from lean possessed the following characteristics; high organisational collectivism, long term orientation and humane orientation. combined with lower levels of assertiveness (Bortolotti, et al,. 2015) Their research suggests that it is not the hard practices that differentiate successful lean implementation but the soft practices, (Bortolotti, et al,. 2015) They discovered that increased levels of humane orientation and lower assertiveness were essential for maximising results from employees in order for process improvements, (Rother, 2009). However, (Bortolotti, et al,. 2015) suggest that future research is needed the specific role that each organisational cultural factor has in implementing lean management. This is particularly because many of the same organisational culture characteristics were discovered in high performing non lean plants in their study. Thus they could not attribute these as being exclusively important to lean management, (Bhasin and Burcher, 2006). However, they believe these findings can significantly add to the discussion on if there is an organisational cultural profile which best facilitates the success of lean, (Bortolotti, et al,. 2013). It was however discovered and confirmed by (Naor *et al.*, 2008), that assertiveness was apparently the only characteristic which specifically distinguished successful lean

plants. This can be attributed to the fact that low assertiveness allows better co-operation between departments reducing obstacles inhibiting cross functional collaboration and integration, (Shah and Ward, 2007).

Organisational culture enablers and inhibits in Lean implementation

The tables below show the enablers and inhibitors of organisational culture aspects in lean implementing.

Lean Enablers	Reference	Lean Inhibitors	Reference
1. Support of senior management	(Achanga *et al.*, 2006; Panizzolo *et al.*, 2012)	1. Lack of management support / commitment	(Al-Najem, et al, 2012)
2. Training for senior management	(Achanga *et al.*, 2006; Panizzolo *et al.*, 2012)	2. Role ambiguity	(Angelis *et al.*, 2011)
3. Positive / Strong relationships between workers.	(Hu *et al.*, 2015)	3. Lack of realisation that lean philosophy is a high maintenance system, cannot be just implemented and left to own devices	(Bhasin and Burcher, 2006; Bhasin, 2012)
4. Employee commitment	(Angelis *et al.*, 2011)	4. Too much emphasis on one factor over another, for example speed over quality or vice versa	(Bessant and Caffyn, 1997)
5. Implementing lean as a philosophical function	(Hines, Holweg and Rich, 2004b; Bhasin and Burcher, 2006; Shah and Ward, 2007)	5. Overtime pressure falling on only a few workers due to skill set	(Shah, 2003; Shah and Ward, 2007)
6. Lean in social aspects (soft lean practices) are important for success	(MacDuffie and Helper, 1997; Brown, et al., 2000; Schonberger, 2007; Olivella, et al., 2008)	6. General feeling of unfair practices and policies existing throughout the organisation.	(Angelis *et al.*, 2011)

7. Employee productiveness is especially good for improvement projects	(Fullerton and McWatters, 2001; Bhasin and Burcher, 2006; Schonberger, 2007)	7. Reluctance to stop a production set to deal with a fault in a product.	(Crofton and Dale, 1996)
8. Employee participation and knowledge sharing.	(Angelis *et al.*, 2011)	8. The development of a 'blame' culture.	(Angelis *et al.*, 2011)
9. Developing employees as an integral part of organisation leading to a sense of job security enhancing employee commitment.	(Womack et al.,1990)	9. Lack of appropriate / necessary equipment to perform the job task well leads to a reduction in employee commitment.	(Shah, 2003; Shah and Ward, 2007)
10. Environment which enhances employee commitment is imperative.	(Munene, 1995; Dixon, 1999)	10. Disruptions to work flow leads to frustration in workers and reduces employee morale.	(Swank, 2003)
11. Support of senior management and middle management	(Womack and Jones, 1996)	11. Employees' unwillingness to socialise with other colleagues also reflects inability to work in teams and reluctance to participate in improvement projects.	(Angelis *et al.*, 2011)
12. Clear demonstrations of organisational support for workers	(Angelis *et al.*, 2011)	12. Poor planning.	(Womack and Jones, 1996; Womack, J., & Jones, 2003)
13. Provision of appropriate tools, processes etc to support employees implement lean	(Womack and Jones, 1996; Womack, J., & Jones, 2003)	13. General low employee morale.	(Angelis *et al.*, 2011)

14. Knowledge sharing systems	(Womack and Jones, 1996; Shah, 2003; Womack, J., & Jones, 2003; Shah and Ward, 2007; Angelis *et al.*, 2011)	14. Lack of appropriate key performance indicators.	(Yan-jiang, Lang and Xiao-na, 2006)
15. Job rotation to help increase skill base and mitigate pressure of overtime on a small pool of employees	(Shah, 2003; Shah and Ward, 2007)	15. Adoption of a 'one size fits all' approach to lean implementation.	(Womack and Jones, 1996; Shah, 2003; Womack, J., & Jones, 2003; Shah and Ward, 2007)
16. Fairness in the workplace	(Angelis *et al.*, 2011)	16. Inappropriate reward system.	(Alsyouf *et al.*, 2011)
17. Preparation of employees into transition of lean systems and philosophy to reduce anxiety and stress from fear of change	(Allen and Meyer, 1997)	17. Too much emphasis on internal departmental boundaries and objectives.	(Mann, 2014)
18. Provide sufficient support and training for employees	(Allen and Meyer, 1997)	18. Incorrect lean assessment of the source of waste.	(Achanga *et al.*, 2006; Ihezie D, 2009)
19. Horizontal communication and co-operation between departments and department objectives	(Mann, 2009)	19. lean consultants, providing financial assistance for training	(R. Jadhav et al,. 2014)
20. Vertical two way communication between upper management and task level employees	(Mann, 2009)	20 Job security	(Marodin and Saurin, 2013)
21 Lean culture reinforced by management attitudes and behaviors	(Mann, 2009)		

22	Emphasis on continuous improvement	(Imai, 1997; Naor *et al.*, 2008)		
23	Strong emphasis on customer added value as ultimate goal	(Prajogo and McDermott, 2005)		
24	Collective organisational culture	(Bortolotti, Boscari and Danese, 2015)		

Conclusion

Studies have shown that many researchers are in agreement that an organisational culture which does not support lean is a large reason for the failure of successful lean implementation, (Munene, 1995; MacDuffie and Helper, 1997; Dixon, 1999; Brown, Willis and Prussia, 2000; Womack, J., & Jones, 2003; Schonberger, 2007). Studies conducted on lean among SMEs have tended to be concentrated in the EU, Asia, USA and Canada, Australia and New Zealand and. The gap highlighted in the research is the role of organisational culture in facilitating the benefits to be derived from lean. With regards to organisational culture very little is discussed about how some national cultures can either help to enable or impede the facilitation of a lean culture with and organisation and SMEs, (Bhasin and Burcher, 2006; Zhou, 2012; Brannen, 2015). Culture can influence how an organisation is defined, either as a group of people who have social interactions with each other or as a system where each party has a role to play to achieve organisational goals, (Trompenaars and Hampden-Turner, 1997). The way a culture defines and views an organisation will impact the organisational culture. This aspect highlights the gap this research will aim to uncover; how organisational culture can be used to leverage lean in SMEs. This is necessary to keep in mind when transforming into lean culture. It has also been identified that the failure rate of lean in SMEs tends to be higher compared with large organisations, (Prajogo and McDermott, 2011). This has also been attributed to the tendency of SMEs to only implement lean tools as apposed an entire lean philosophy. A lack of knowledge regarding how lean should be implemented when not at a 'task level' permeates the literature, (Cameron, 1994). Furthermore, with regards to lean numerous social aspects have been identified with the success of implementing lean in organisations. These social factors permeate from the upper levels of the organisation to the task levels, (Pakdil and Leonard, 2015b).

Factors such as fairness, leadership commitment to implementing lean, employee commitment, knowledge sharing and continuous improvement have all been identified as enablers of lean in organisations (Angeleis et al, 2010). The research revealed some disagreement as to the ease and ability for SMEs to successfully implement a lean philosophy. This is further reinforced by the continuous improvement philosophy which demonstrates numerous overlaps with lean concepts and has been the key strategy in Japanese manufacturing due to its high effectiveness and lower cost implementation which is highly suitable for SMEs, (Yan-jiang, et al., 2006). Finally, with regards to lean culture, there is a general understanding of factors which should exist in a lean culture. These include the adoption of communication

horizontally and vertically throughout the organisation, an environment which encourages a high level of employee involvement in decision making and improvement projects, attitudes among all staff which are open and always proactive to find better ways of doing things and a leadership style which encourages and supports such behaviours, (Shingo, 1988; Mann, 2009). Key to the lean culture is having an attitude which emphasises a customer driven value system (Womack, J., & Jones, 2003; Yasin, Small and Wafa, 2003; Al-najem, 2014). This does not prioritise any individual department but emphasises the end result and how departments can put aside their own internal boundaries to co-operate better achieving greater customer value, (Al-Najem et al., 2012).

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Contact email: a.a.alkhoraif@cranfield.ac.uk
Contact email: kriyf@me.com

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Alkhoraif, Abdullah

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